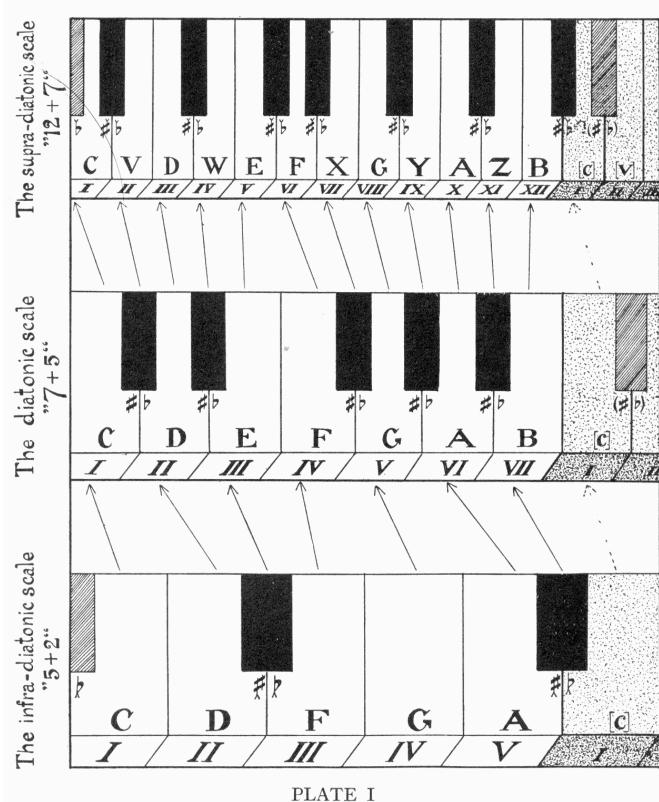


A THEORY OF EVOLVING TONALITY
by Joseph Yasser
(review by Carlo Serafini)

"*A Theory of Evolving Tonality*" is a marvelous book because the author created a vast universe of theories, calculations, conjectures and predictions regarding a possible evolution of the most basic element of music: the tuning system even though his prophesies have resulted totally unfulfilled.

I read it as a science fiction novel where the main characters have strange names like "*infra-comma*", "*supra-sharp*", "*falso-nance*" and "*centitone*" and the plot slowly evolves from antiquity on planet Earth to imaginary worlds on a faraway galaxy.



I am not trying to discredit this work published in 1932, I am simply saying that Joseph Yasser was a genius and a very creative person to be able to come up with such an elaborate and innovative theory and the fact that his predictions have gone unrealized does not diminish the value of his work presenting a lot of very good points.

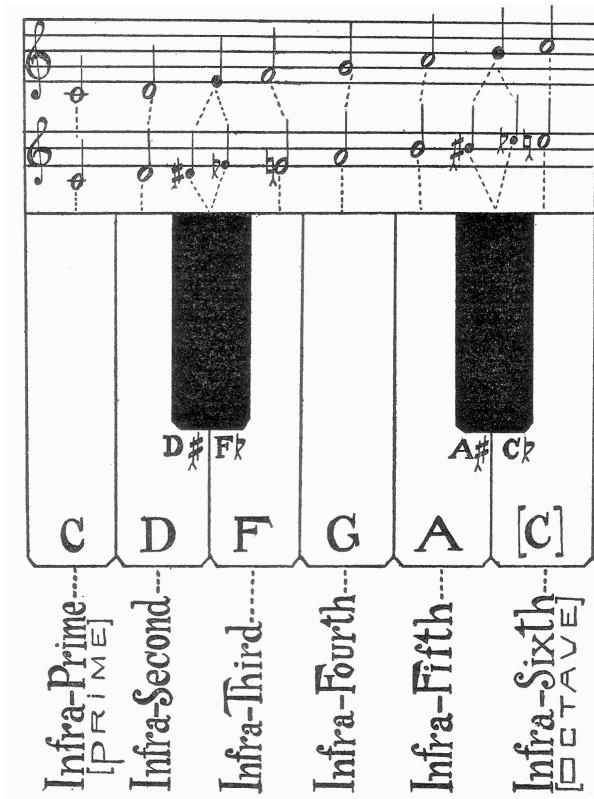
His basic idea is that our present tuning system, dividing the octave into twelve equal intervals, is the natural evolution of preceding and related simpler ones and that it will be the base for a more complex one that will appear in the future.

Yasser is a strong proponent of tonal music (regardless of tuning systems) whose main characteristics are: the "*unalterable laws of gravitation of all tones of any scale to the common Tonic*" and a "*specific division of all harmonic combinations into consonances and dissonances*".

For this reason he considers the tones forming a valid tuning system always divided between "*regular*" and "*auxiliary*" ones.

Our present tuning system, for example, is formed by 7 regular degrees (the [diatonic scale](#)) and 5 auxiliary ones needed to create modes in various keys and for modulating purposes.

Consequently he abhors [atonal music](#) where, for example, the 12 degrees of our present tuning system are considered coequal precluding the formation of modes and keys and bringing only to "neutral" music



degrees ("5+2") and that he calls "*infra-diatonic*".

Yasser goes to great lengths to demonstrate the universality of these scales going back in time to Greek, Celtic, Siamese and Chinese music. He even theorizes the existence of a "*sub-infra diatonic*" scale with 2 "regular" and 3 "auxiliary" degrees ("2+3") as predecessor of the pentatonic one.

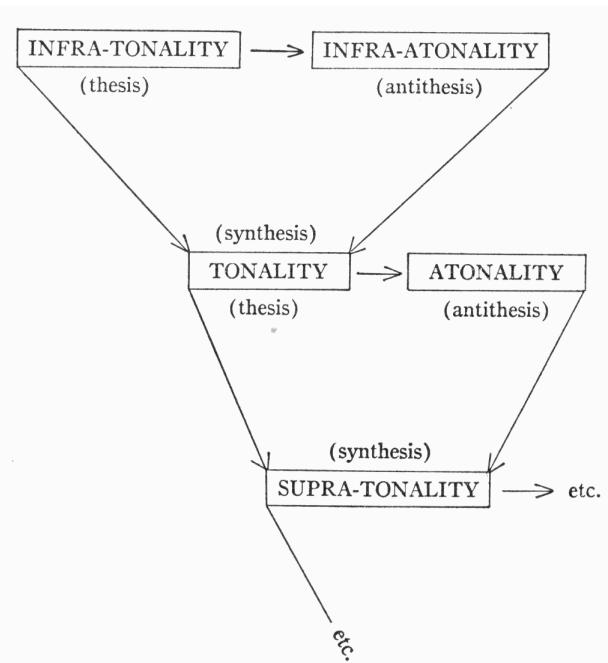
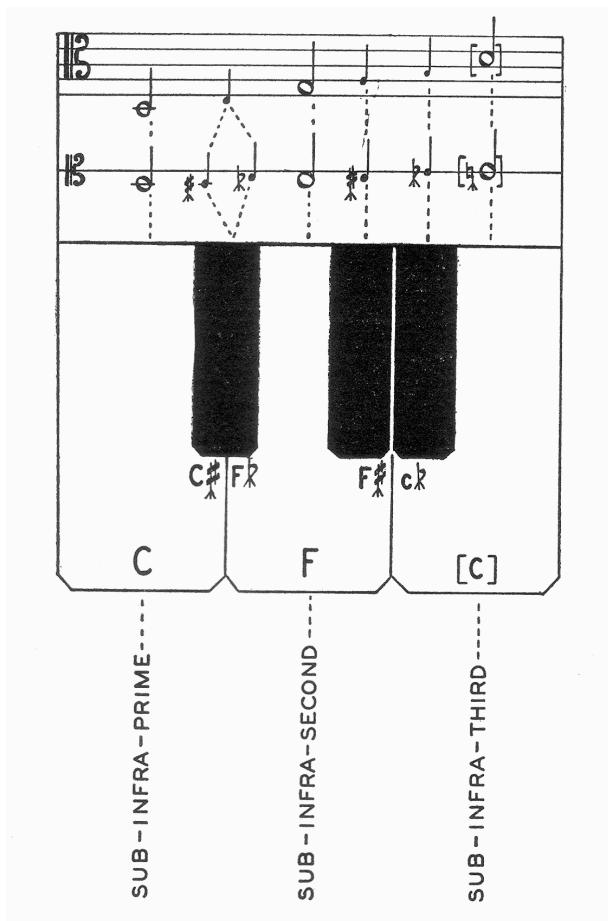
He explains also that the passage from a simpler to a more complex "*tonal plane*" happens when the tonal resources of the former one are deemed exhausted by the practitioners of that tuning system and that the period of time in between the decadence of the old tuning system and the appearance of the new one is characterized by some kind of "*atonal*" behavior, meaning that the distinction between "regular" and "auxiliary" degrees of a scale tends to disappear because musicians are "*subconsciously*" anticipating the

He is also against any "*mechanical*" subdivision of the tone, such as [quarter tones](#) and any further one, in order to increase the number of melodic and harmonic building blocks for the music of the future because these procedures are not "*organic*".

Yasser calls an "*organic*" scale one bearing "*an unambiguous stamp of universality spontaneously developing in accordance with some inherent organic laws of our musical consciousness*".

And which scales bear this "*stamp of universality*"?

The diatonic scale included in our "7+5" tuning system and its predecessor, the [pentatonic](#) one that also, in his view, had 2 auxiliary



coming of the next "tonal plane" using all the available tones as "regular" ones, as it will be possible with the upcoming tuning system, with the addition of new "auxiliary" ones.

He individuates such a period during the Middle Ages when the tonal resources of "infra-diatonic" music became obsolete and the "revolt" to them (called by Yasser, a period of "infra-atonality") slowly brought to the acceptance of having 7 "regular" tones instead of 5 "regular" and 2 "auxiliary" ones and, as a consequence, to the creation of a new system with 7 "regular" and 5 "auxiliary" ones, our present diatonic system.

He individuates similar circumstances (that he calls "New Medievalism") at the end of the 19th and beginning of the 20th century with the end of the golden age of diatonic music (the [common practice era](#)) grown increasingly chromatic up to its dissolution with dodecaphonic music.

According to him, a few composers (he names Debussy, Scriabin, Stravinsky and Schoenberg) are "subconsciously" anticipating, exploring increasingly chromatic music, the tonal resources of the upcoming tuning system, the "supra-diatonic" one.

Yasser predicts that the next "tonal plane", the "supra-diatonic" one, will have 12 "regular" and 7 "auxiliary" degrees dividing the octave into 19 equal degrees.

He reasons that this way future composers will be able to use 12 note "supra-diatonic" modes behaving in a similar way as the 7 note modes of the diatonic era preserving the natural and

"*infallible laws of tonality*" but with a more sophisticated and complex musical environment.

The transition to "*supra-tonality*" has yet to come and probably will never see the light of day, but Yasser, although aware of the many difficulties ahead, is adamant about his view, so much so that he designs his imaginary worlds in very minute details throughout the book. For each of his tuning systems he creates a notation system: a one line staff for the "*sub-infra diatonic*" one, a three line staff for the "*infra-diatonic*" one, the usual five line staff for the diatonic one and a ten line staff for the "*supra-diatonic*" one.

Each system features its own, graphically different, accidentals ("*infra-flats*", "*supra sharps*" and so on). The illustrations of this book are remarkable too and greatly enhance the pleasure of reading it (I know this is a geeky remark!).

Among the many oddities of this book there is also this one: Yasser measures musical intervals in "*centitones*", one hundredth of an equally tempered whole tone so that one octave measures 600 "*centitones*"!

Moving along the line of ever-increasingly complex tuning system, the further step after the "*supra-diatonic*" one (following the same evolutionary pattern) should be [31EDO](#), with 19 "regular" and 12 "auxiliary" degrees that, I suppose, he would call "*hyper-supra diatonic*"!

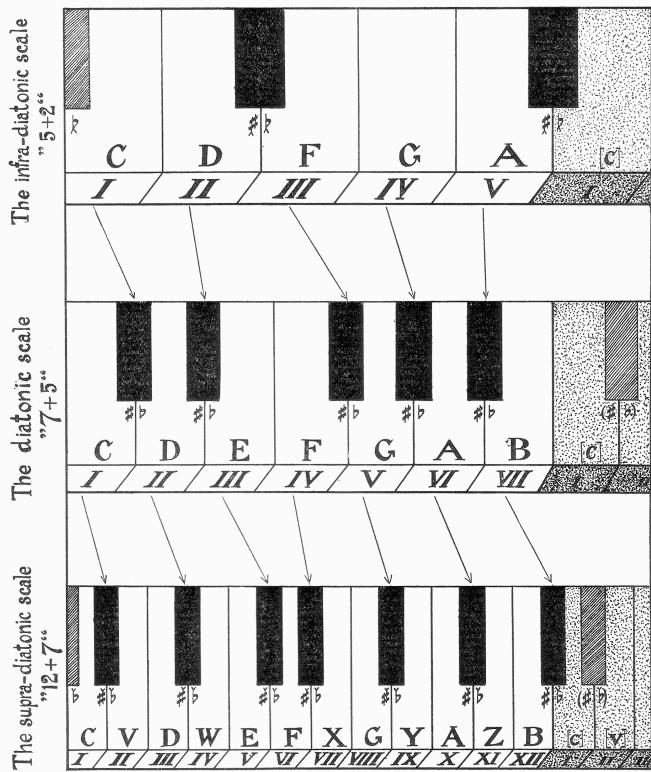
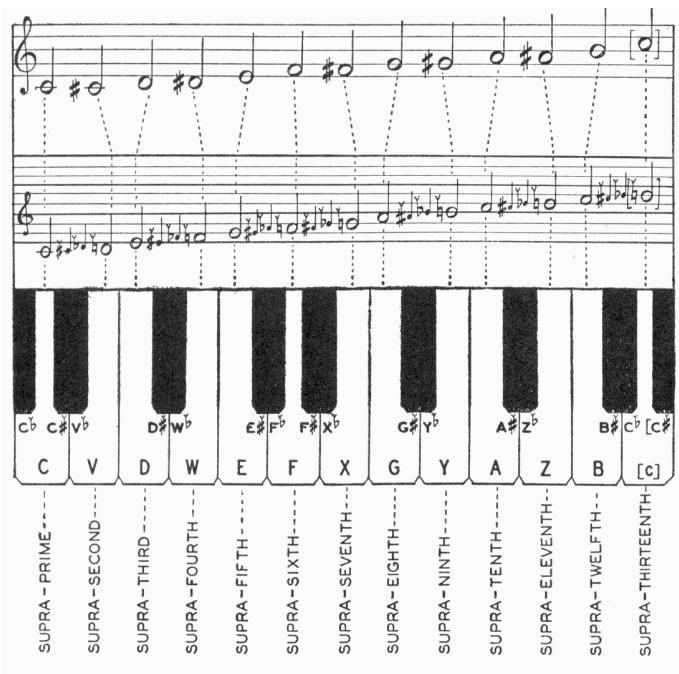
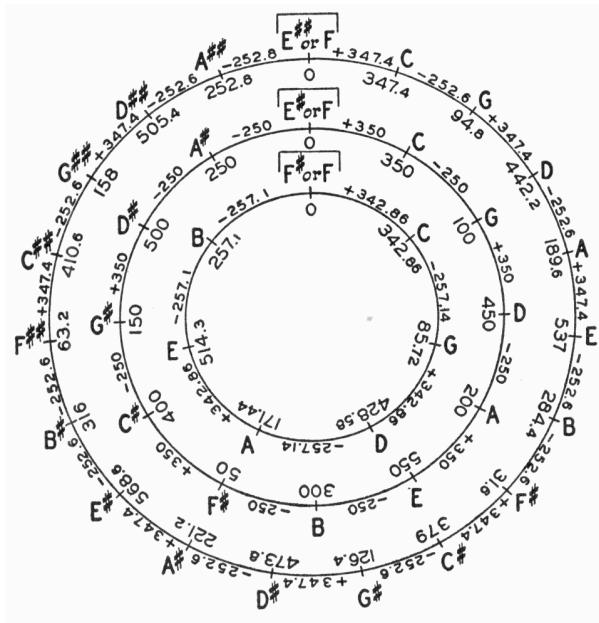


PLATE II

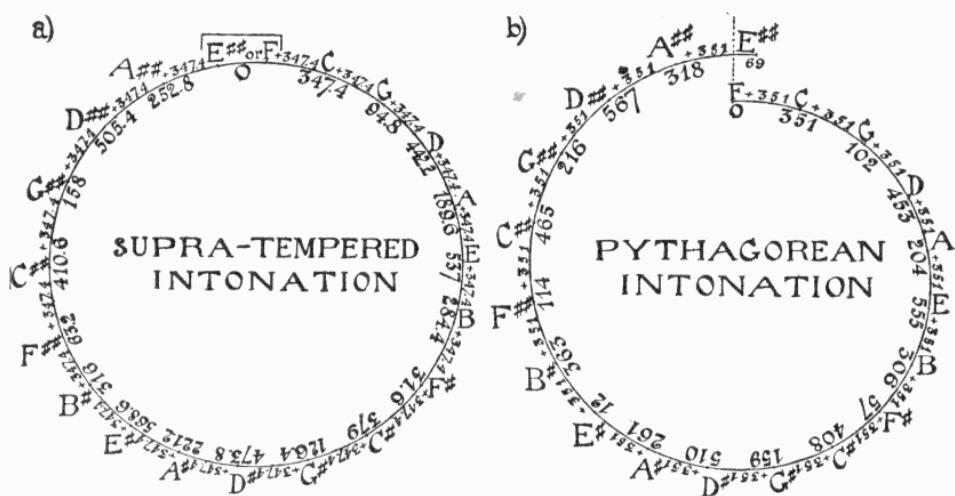


smaller than ratio 3:2, the just intonation one (694.73 versus 701.95 cents), Yasser suggests "*the elimination of overtone 3 and its octave duplications from the timbre of the new instrument*" because it would be a "false resonance" (false sounding because not found in this tonal system) and that this will be possible through the "*lately discovered electrical principle of tone-production which marks the beginning of a new era in the fields of construction of musical instruments that are probably destined to supersede, in time to come, those now in existence*".

It must be noted that all the examples referring to the various tuning systems mentioned in the book are in [EDOs](#), so, the “*sub-infra diatonic*” ones are in [5EDO](#), the “*infra-diatonic*” ones in [7EDO](#), the diatonic ones in [12EDO](#) and the “*supra-diatonic*” ones in [19EDO](#).

He is obviously aware that the formation of ancient scales was based on [Pythagorean](#) procedures but, from an evolutionary point of view, he considers their tempered version to be preferable because they close the circle of fifths.

Realizing that the fifth of the “*supradiatonic*” tuning system is much



I like to close mentioning another negative aspect Yasser sees in "atonality", an "*anarchic tendency to lawlessness*", a "*highly favorable soil for easily pleased dilettantes who sometimes gamble on this alluring freedom*" and that "*progress in art is characterized not merely by emancipation from the shackles of the past, from antiquated rules, but by the simultaneous appearance of new and more complicated problems, and with them, of new restrictions*". A reminder for everyone!

© Carlo Serafini - July 2013